thromboembolism. By analyzing the correlation of transthoracic echocardiography parameters and atrial fibrillation thromboembolism risk assessment indicators ($CHADS_2$ and CHA_2DS_2-VASc), a new prediction method of risk of stroke in patients with atrial fibrillation.
Methods: 304 patients that diagnosed with atrial fibrillation in our hospital from October 2010 to October 2012, and score to each patient according to standard of $CHADS_2$ and CHA_2DS_2-VASc. Patients were divided into low, medium and high-risk groups. After admission, each patient underwent transthoracic ultrasound echocardiography, internal diameter of right ventricle, interventricular septum thickness, left ventricular internal diameter, left ventricular posterior wall, right ventricular outflow tract width, aortic root diameter, left atrial diameter, pulmonary artery diameter, EDT (deceleration time of E wave), speed of aortic valve flow and the pulmonary valve orifice flow, left ventricular ejection fraction (LVEF). We analysis correlation of ultrasound heartbeat graph parameters and thromboembolic risk scoring by using Spearman rank.
Results: (1) The ultrasound indicators that has a significant correlation with $CHADS_2$ score are: interventricular septal thickness, left ventricular posterior wall thickness, left atrial diameter, pulmonary artery diameter, right ventricular diameter, the inner diameter of the aortic root, LVEF. (2) The ultrasound indicators that has a significant correlation with CHA_2DS_2-VASc score are: Interventricular septal thickness, left ventricular posterior wall thickness, left atrial diameter, pulmonary artery diameter, aortic valve flow velocity, LVEF.
Conclusions: With the $CHADS_2$ and CHA_2DS_2-VASc score increased, cardiac ultrasound showed the enlargement of left atrium, left ventricular hypertrophy, pulmonary artery diameter widened and LVEF decreased. In addition, the internal diameter of right ventricle, aortic root diameter is associated with $CHADS_2$ score; aortic valve flow velocity is associated with CHA_2DS_2-VASc score. It prompted that the echocardiographic indexs such as thickness of interventricular septum, posterior wall, left atrial diameter, diameter of pulmonary artery, aortic valve flow rate and LVEF value may be the identification index of thromboembolism risk in non-valvular atrial fibrillation patients.

GW25-e2219

Evaluation of the embolism risk score systems in patients with atrial fibrillation

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Objectives: Atrial fibrillation (AF) is associated with a significantly high risk of stroke and systemic embolisms, several scoring system are currently used to stratify thromboembolic risk. We evaluate the predictive power of different scoring system to identify the suitable scoring system for Chinese atrial fibrillation patients.
Methods: 425 consecutive patients treated in our hospital with paroxysmal or persistent atrial fibrillation are selected. The clinical data, such as gender, age, blood pressure (BP), blood lipids, LVEF, history of smoking, embolism, heart failure (HF), diabetes mellitus (DM), coronary heart disease (CHD), hyperthyroidism, valvular heart disease (VHD), myocardial infarction (MI), peripheral arterial disease (PAD), large aortic plaque, are collected for each patient. Telephone follow-up are done for each patient, the patients with definitive stroke are defined as stroke positive group. Above all, 8 scoring system (the original CHADS2 score, modified CHADS2 score, Framingham score, Rietbrock modified score, CHA2DS2-VASc score, 2006 Nice score, ACC/AHA/ESC score, Eighth Edition ACCP) are used to stratify thromboembolic risk for each patient.
Results: All 426 patients (273 male, 153 female) include 45 cases with stroke, 20 cases with DM, 21 cases with HF, 180 cases with hypertension, 54 cases with CHD, 31 cases with hyperthyroidism, 34 cases with VHD, 2 cases with TIA, 48 cases with smoking history. There are significant statistically differences between 8 scoring systems, the ROC curve area of each scoring system are calculated. Original CHADS2 score (Az=0.917, <1.0,>0.9) have higher accuracy. The six scoring system: modified CHADS2 score (Az=0.864); Rietbrock modified score (Az=0.707); CHA2DS2-VASc (Az=0.789);2006 Nice (Az=0.847), ACC/AHA/ESC (Az=0.883), Eighth Edition ACCP (Az=0.886) have moderate accuracy. Whereas Framingham score (Az=0.508, <0.7, >0.5) have lower accuracy. The descending accuracy order of the 8 scoring systems is original CHADS2, Eighth Edition ACCP, ACC/AHA/ESC, modified CHADS2, 2006 Nice, CHA2DS2-VASc, Rietbrock modified score, Framingham score.
Conclusions: The factors or risk stratification of the 8 scoring systems is different, which lead to the different predictive power of same patient. The Original CHADS2 have a higher accuracy and are most suitable scoring system for Chinese atrial fibrillation patients.

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Correlation of CHADS2 and CHA2DS2-VASc scores with left atrial thrombus in Chinese patients with nonvalvular atrial fibrillation

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Objectives: The aims of this study were to evaluate the relationship of the $CHADS_2$ and CHA_2DS_2-VASc scores with left atrial (LA) thrombus detected by transesophageal echocardiographic and to compare these two risk stratification schemes with respect to their ability to predict LA thrombus in Chinese patients with nonvalvular atrial fibrillation.
Methods: Transesophageal echocardiograms of 2112 patients (mean age 57.5±11.8 years; 32% female; 1750 paroxysmal AF) with nonvalvular atrial fibrillation were retrospectively reviewed for LA thrombus. The patients' $CHADS_2$ and CHA_2DS_2-VASc risk scores and categories were also calculated.
Results: Transesophageal echocardiography revealed LA thrombi in 69 (3.3%) patients. Using $CHADS_2$, LA thrombus was found in 2.5% of the low-risk group, 3.7% of the intermediate-risk group and 4.1% of the high-risk group (P=0.23). Using CHA_2DS_2-VASc, LA thrombus was found in 1.8% of the low-risk group, 3.5% of the intermediate-risk group and 4.0% of the high-risk group (P=0.06). The frequency of patients with LA thrombi fell into the low-intermediate-risk group classified based on the $CHADS_2$ and CHA_2DS_2-VASc score were 76.8% and 49.3%, respectively. The c-statistics for predicting LA thrombi with $CHADS_2$ and CHA_2DS_2-VASc were 0.56 (95% CI 0.49-0.63) and 0.58 (95% CI 0.52-0.65), respectively.
Conclusions: Both CHA_2DS_2-VASc and $CHADS_2$ scores may have limited value for predicting LA thrombus in Chinese patients with nonvalvular atrial fibrillation. Further research is needed to examine their true predictive value.

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Strategy of early detection and active management of supraventricular arrhythmia with remote monitoring: The randomized, multicenter SETAM trial

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Objectives: Atrial fibrillation (AF) is the most commonly encountered sustained cardiac arrhythmia in medical practice and it is associated with a risk of thromboembolic events or other complications, especially for asymptomatic patients who may not receive therapy at the earliest. In patients with an implantable device, the integrated home monitoring (HM) technology may provide relevant notifications for detection of supra-ventricular arrhythmias (SVA): a treatment can be initiated or optimized directly after a new onset of SVA. The French randomized, multicenter SETAM trial assessed the impact of HM on detection and treatment of SVA.
Methods: Patients implanted with a dual chamber pacemaker were enrolled in the study at hospital discharge if they had a sinusal rhythm at enrollment, no antiarrhythmic, anticoagulant or dual-antiplatelet therapy, and if they had a CHA_2DS_2-VASc score for stroke risk of 2 or more. The patients were randomly assigned to an active group, followed by Biotronik HM, or a control group without HM surveillance. The primary criteria was the comparison of the time from enrollment to the first SVA-related intervention between the groups.
Results: A total of 595 patients in 58 centers (mean age=79±8 y.o, 63% male, mean CHA_2DS_2-VASc score=3.7±1.2) were followed during 12.8±3.3 mo. There was no difference in the baseline clinical characteristics between the groups. The most prevalent concomitant co-morbidities were hypertension (82% patients), diabetes (29%) and vascular disease (24%). Implantation indications were atrio-ventricular blocks in 77% of patients, sinus node disease in 20% and others in 3%. The global SVA incidence was 25% (29% in the active group vs 22% in the control group, P=ns). A therapy (drugs or ablation) was instituted for 49/291 patients (17%) in the active group vs 43/304 patients (14%) in the control group (P=ns). The median time from enrollment to the first therapy for SVA was 114 [44; 241] days in the active group vs 224 [67; 366] days in the control group, representing a median gain of 110-days in SVA management (50% reduction, P=0.01). Over these 92 patients, 54 had AF (59%) and 38 had flutter or atrial tachyarrhythmia (41%). Anticoagulation was initiated in 80% of patients and antiarrhythmic drugs in 55%. In the active group, 93% of the notifications transmitted by HM were appropriate for SVA detection. The remaining 7% were inappropriate for SVA (over-sensing, noise or non-sustained VT).
Conclusions: The SETAM study demonstrated that HM allows earlier detection and treatment of SVA in patients implanted with pacemakers. It suggests that HM could be expanded to a maximum of patients in daily clinical practice in order to optimize their SVA management. The next step is to report how early detection of SVA with HM can possibly improve the patients clinical outcome.

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Efficacy of microRNA423-5p and BNP detection on evaluation of cardiac dysfunction after cardiac pacing

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Objectives: This study is to evaluate the potential cardiac dysfunction in patients with pacemaker implantation by expression of MicroRNA423-5p and BNP detection.
Methods: A total of 162 patients were recruited and divided into 3 groups: group A (45 patients with heart failure), group B (48 patients with normal heart function) and group C (69 patients with pacemaker implantation). Expressions of BNP and